

WHAT IS CLAIMED IS:

1. A storage system comprising:
 a plurality of storage media to store
information;
 controllers to control the storage media; and
 communication path to connect the storage
media and the controllers in loops for information
transfer between the controllers and the storage media;
 wherein, when a failure in a communication
path or a storage medium is recognized, the controller
identifies the failed communication path or storage
medium while processing information sent from a higher
level device.
2. A storage system comprising:
 storage media to store information
 controllers to control the storage media;
 communication path to connect the storage
media and the controllers in loops for information
transfer between the controllers and the storage media;
and
 a signal degradation detection means to
detect a signal degradation in the communication path.
3. A storage system according to claim 2,
wherein, when the signal degradation detection means
detects a signal degradation and a failure occurs in a
communication path with the signal degradation, the
controller initiates a failure diagnosis beginning with
a portion where the signal degradation was detected by

the signal degradation detection means.

4. A storage system according to claim 1,
further comprising:

an indication means to indicate that there is
a failure in a storage medium when the controller
determines that there is a failure in the storage
medium.

5. A storage system according to claim 2,
further comprising:

an indication means to indicate that there is
a failure in a storage medium when the controller
determines that there is a failure in the storage
medium.

6. A storage system according to claim 3,
further comprising:

an indication means to indicate that there is
a failure in a storage medium when the controller
determines that there is a failure in the storage
medium.

7. A storage system according to claim 1,
further comprising:

a control terminal to display a failed
portion on a screen each time a failure is identified.

8. A storage system according to claim 2,
further comprising:

a control terminal to display a failed
portion on a screen each time a failure is identified.

9. A storage system according to claim 3,

further comprising:

a control terminal to display a failed portion on a screen each time a failure is identified.

10. A storage system according to claim 1, wherein the controller can interrupt and resume the failure diagnosis for locating the failed portion.

11. A storage system according to claim 2, wherein the controller interrupts and resumes the failure diagnosis for locating the failed portion.

12. A storage system according to claim 4, wherein the indication means is an LED.

13. A storage system according to claim 5, wherein the indication means is an LED.

14. A storage system according to claim 6, wherein the indication means is an LED.

15. A storage system according to claim 3, wherein the controller interrupts and resumes the failure diagnosis for locating the failed portion.

16. A failure diagnosing method in a storage system comprising, wherein the storage system includes modules each accommodating the storage media, controllers to control the storage media, and communication path connected to the controllers and connecting the storage media and the controllers in loops for information transfer between the controllers and the storage media, the failure diagnosing method comprising the steps of:

when a failure in a communication path or a

storage medium is recognized, bypassing the communication path from one module at a time by the controller to identify a failed portion while processing information sent from a higher level device;

identifying a failed module in the bypassed communication path; and

when the failed module is determined, identifying a failed medium or communication path in the failed module.

17. A failure diagnosing method according to claim 16, further comprising a step of:

lighting up an indication means to indicate that there is a failure in a storage medium when the controller determines that there is a failure in the storage medium.

18. A failure diagnosing method according to claim 16, further comprising a step of:

when the controller determines that there is a failure in the storage medium, displaying a failed portion on a screen of a control terminal.

19. A failure diagnosing method according to claim 16, further comprising a step of:

when the controller is applied more than a predetermined load, temporarily interrupting the failure diagnosis and, when the load on the controller is less than the predetermined load, resuming the failure diagnosis.

20. A failure diagnosing method according to

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claim 16, wherein the indication means is an LED.